

7 Transport in plants — Part 2 — Answers

Answers

Work through these after trying the questions yourself.

7.1 The loss of water vapour from a plant (mainly through the leaves).

7.2 Water evaporates from the wet cell surfaces inside the leaf, then the water vapour diffuses out through the stomata.

7.3 (a) cohesion \ (b) hydrogen bonds.

7.4 Any two of: a thick waxy cuticle; stomata sunk in pits; hairs that trap moist air; leaves that roll up.

7.5 A source is where sugar is made or released (e.g. a leaf); a sink is where it is used or stored (e.g. a root).

7.6 Loading sucrose lowers the water potential inside the sieve tube, so water enters by osmosis (from a higher water potential).

7.7 Water evaporating from the leaves pulls on the water below, putting the whole column under tension. Cohesion — water molecules sticking together by hydrogen bonds — holds the column together so it does not break, and the pull drags the entire column up to the top of the tree.